

AMENDMENTS TO THE CLAIMS

1-49. (Canceled)

50. (Currently amended) An *in vitro* process for enabling meiotic recombination of partially homologous DNA sequences having up to 30% of base mismatches in yeast cells, said process comprising:

- (a) providing a first set of haploid yeast cells comprising a first DNA sequence, and having a defective enzymatic mismatch repair system;
- (b) providing a second set of haploid yeast cells comprising a second DNA sequence which is partially homologous to the first DNA sequence by having up to 30% base mismatches with the first DNA sequence, and having a defective enzymatic mismatch repair system;
- (c) mixing the first and second sets of cells to form diploid yeast cells;
- (d) maintaining the diploid yeast cells under conditions to effect meiotic recombination ~~meiosis~~, to make hybrid yeast cells; and
- (e) recovering the hybrid ~~haploid~~ yeast cells with recombined DNA sequences.

51. (Canceled)

52. (Previously presented) The process according to claim 50, wherein said enzymatic mismatch repair system of said yeast cells are rendered defective by a mutation of the mismatch repair gene PMS1 and/or a mutation of the mismatch repair gene MSH2.

53. (Previously presented) The process according to claim 52, wherein the mutation of the mismatch repair gene PMS1 and/or the mutation of the mismatch repair gene MSH2 is due to a deletion of the respective gene.

54. (Canceled)

55. (Previously presented) An *in vitro* process for making hybrid yeast cells, said process comprising:

- (a) mutating *in vitro* a first set of haploid yeast cells to render defective the enzymatic mismatch repair system of said cells and introducing a first DNA sequence into said cells;
- (b) mutating *in vitro* a second set of haploid yeast cells to render defective the enzymatic mismatch repair system of said cells and introducing a second DNA sequence into said cells wherein the second DNA sequence is partially homologous to the first DNA sequence and has up to 30% base mismatches with the first DNA sequence;
- (c) mixing the first and second sets of cells to form diploid yeast cells;
- (d) culturing said diploid yeast cells to effect meiotic recombination of said partially homologous first and second DNA sequences, to make hybrid yeast cells; and
- (e) recovering said hybrid yeast cells.

56. (Canceled)

57. (Previously presented) An *in vitro* process for obtaining hybrid DNA sequences, which comprises:

- (a) conducting the process according to claim 55 to make hybrid yeast cells; and
- (b) isolating hybrid DNA sequences of said hybrid yeast cells.

58. (Previously presented) The process according to claim 57, wherein said hybrid DNA sequences comprise a gene.

59. (Previously presented) An *in vitro* process for obtaining proteins encoded by hybrid DNA sequences comprising:

- (a) obtaining said hybrid DNA sequences according to the process of claim 57; and
- (b) expressing proteins encoded by said hybrid DNA sequences.

60. (Previously presented) The process according to claim 59, wherein said hybrid DNA sequences comprise a gene.

61-63. (Canceled)